Claims

1. A magnet valve for actuating a fuel injector, having a magnet core (2), in which a magnet coil (3) is received that surrounds a closing spring (9), which acts on a magnet armature (10), and between a face end (8) oriented toward the magnet armature (10) and the magnet armature (10), outlet openings (18, 35) are formed upon impact of the magnet armature (10), characterized in that a hydraulic damping chamber (31) is defined by one face end (12) of the magnet armature (10) and by a damping face (20) of non-magnetic material (16).

2. The magnet valve of claim 1, characterized in that the hydraulic damping chamber (31) extends in the radial direction.

3. The magnet valve of claim 1, characterized in that the hydraulic damping chamber (31) is embodied as an annular chamber.

4. The magnet valve of claim 2, characterized in that the damping face (20) is embodied of non-magnetic material (16) on the second end face (5), oriented toward the magnet armature (10), of the magnet core (2).

5. The magnet valve of claim 4, characterized in that the damping face (20) extends on the second face end (5) of the magnet core (2) at a constant spacing (15) parallel from the end face (12) of the magnet core (10).

6. The magnet valve of claim 4, characterized in that the damping face (20) extends in the second end face (5) of the magnet core (2) at an angle (17) relative to the end face (12) of the magnet armature (10).

7. The magnet valve of claim 4, characterized in that the damping face (20), on the second face end (5) of the magnet core (2), has a luglike protrusion (32) that defines the hydraulic damping chamber (31).

8. The magnet valve of claim 1, characterized in that the non-magnetic material (16) is a plastic material.

9. The magnet valve of claim 1, characterized in that the non-magnetic material (16) is glued to the second end face (5) of the magnet core (2).

10. The magnet valve of claim 1, characterized in that the non-magnetic material (16) is cast on the second end face (5) of the magnet core (2).

11. The magnet valve of claim 2, characterized in that the damping face (20) has a first annular face portion (21) in the radial direction.

12. The magnet valve of claim 2, characterized in that the damping face (20) has a second annular face portion (22) in the radial direction, below the magnet coil (3) that is let into the magnet core (2).

13. The magnet valve of claims 11 and 12, characterized in that between the first annular face portion (21) and the second annular face portion (22), a graduation (29, 30) is formed.

14. The magnet valve of claim 7, characterized in that the luglike protrusion (32) is embodied on a third annular face portion (23) of the damping face (20).

15. The magnet valve of claim 1, characterized in that the damping face (20) extends on the second end face (5) of the magnet core (2) inside a remanent air gap (13) of the magnet valve (1).

16. The magnet valve of claim 6, characterized in that the damping face (20) is embodied in the second end face (5) of the magnet core (2) in inclined fashion relative to the end face (12) of the magnet armature (10) by an angle (17) such that the hydraulic damping chamber (31) opens in the radial direction.

17. The magnet valve of claim 6, characterized in that the damping face (20) is oriented on the second face end (5) of the magnet core (2) relative to the end face (12) of the magnet armature (10) at an angle (17) such that the cross section of the hydraulic damping chamber (31) narrows continuously in the radial direction.